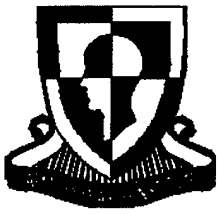

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Orientation Guide for the Simulation-Based Multiechelon Training Program for Armor Units-Digital

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January 1997

Armored Forces Research Unit

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EDGAR M. JOHNSON
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New command, control, and communication technologies will affect soldier training requirements. Emerging training requirements for Army leaders include: (a) competency on a wider variety of tasks, (b) the ability to exploit the capabilities of new technologies, and (c) a clear understanding of digital tactics, techniques, and procedures. The current effort, Simulation-Based Multiechelon Training Program for Armor Units - Digital (SIMUTA-D), contributes a first step toward solving some of the key training challenges faced by Force XXI. The SIMUTA-D program features Movement to Contact, Deliberate Attack, and Defense in Sector training support packages which support execution-focused, battalion task force staff training for the digitally-equipped battlefield. This orientation guide provides the training unit with sufficient information to prepare to conduct training for the digital battlefield in a virtual (SIMulation Networking [SIMNET]) or constructive (Janus) environment. In addition, it serves as a quick reference that briefly describes the essential duties and responsibilities of the training unit and an observer/controller team.

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FOREWORD

The U.S. Army must be trained and ready to face the challenges for Force XXI warfighters brought about by the end of the Cold War, the reduction of forces, and emerging technologies for the battlefield. The Simulation-Based Multiechelon Training Program for Armor Units-Digital (SIMUTA-D), was funded by the Force XXI Training Program and sponsored by the Mounted Battlespace Battle Lab and the Armored Forces Research Unit of the Army Research Institute (ARI) at Fort Knox under Work Package 2228, FASTTRAIN, Force XXI Training Methods and Strategies. ARI's research on training requirements and evaluation methods is supported by a Memorandum of Agreement between the U.S. Army Armor Center and Fort Knox and the U. S. Army Research Institute titled "Manpower, Personnel and Training Research, Development, Test, and Evaluation for the Mounted Forces," 16 October 1995. The SIMUTA-D program contributes to the Army's readiness by providing training support packages (TSPs) designed to train battalion task force battle staff execution skills for the 21st century battlefield.

The SIMUTA-Battalion Exercise Expansion (SIMUTA-B) program TSPs served as a baseline for SIMUTA-D Movement to Contact, Defense in Sector, and Deliberate Attack TSPs which focus on training for the digitally-equipped battlefield. The SIMUTA-D development process began with a front-end analysis of the training requirements associated with the use of the following automated command, control, and communications devices: the Intervehicular Information System (IVIS), the Brigade and Battalion Command and Control (B2C2) system, the All Source Analysis System (ASAS), and the Initial Fire Support Automated System (IFSAS). The next step was developing draft TSPs organized around the structured training method. The SIMUTA-D TSPs then underwent a series of pilot trials conducted in Simulation Networking and Janus-Army (A). Finally, a formative evaluation of each TSP was conducted in Janus-A using observer/controllers (O/Cs) as trainers and an active unit (i.e., Task Force 2-33 Armor) as role players. The TSPs were revised as a result of this evaluation.

This research product provides an orientation to battalion/task force units preparing to participate in the SIMUTA-D training program. In addition, it provides leaders with sufficient information to enable them, in coordination with an O/C team, to plan and schedule their training exercises.

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ORIENTATION GUIDE FOR THE SIMULATION-BASED MULTIECHELON TRAINING PROGRAM FOR ARMOR UNITS-DIGITAL

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Purpose of the Orientation Guide

New command, control, and communication (C^3) technologies will affect soldier training requirements. Emerging training requirements for Army leaders include competency on a wider variety of tasks, the ability to exploit the capabilities of new technologies, and a clear understanding of digital tactics, techniques, and procedures (TTPs). The current effort, Simulation-Based Multiechelon Training Program for Armor Units - Digital (SIMUTA-D), contributes a first step toward solving some of the key training challenges faced by Force XXI. The SIMUTA-D program features Movement to Contact (MTC), Deliberate Attack (DATK), and Defense in Sector (DIS) training support packages (TSPs) which support execution-focused, battalion task force (BN/TF) staff training for the digitally-equipped battlefield.

This orientation guide provides the training unit with sufficient information to prepare to conduct training for the digital battlefield in either a virtual (SIMulation Networking [SIMNET]) or constructive (Janus) environment. This guide also serves as a quick reference that briefly describes the essential duties and responsibilities of the training unit and an observer/controller (O/C) team. All acronyms contained in this guide are defined in Appendix A.

A complete explanation of duties and responsibilities of key personnel, and mission-specific requirements of the unit and O/C team is found in the TSPs. The TSPs for SIMUTA-D are organized into the following five volumes:

1. Volume 1: Training Guide
2. Volume II: Unit Pre-Exercise Materials
3. Volume III: Movement to Contact
4. Volume IV: Defense in Sector
5. Volume V: Deliberate Attack

All volumes are available in two versions. One version is for use in the Janus-Army (A) constructive training environment while the other version is for use in the SIMNET virtual training environment. All missions were developed using the National Training Center (NTC) terrain database. Volume I is a training guide for the O/C team. Volume II contains unit pre-exercise material. Volumes III through V are referred to as the mission volumes and contain O/C training management materials. Volumes III-V also contain mission-related materials (e.g., operations orders [OPORDs]) which the unit will receive during training. A point of contact (POC) list, which includes the Virtual Training Program (VTP) O/C team and the Mounted Battlespace Battle Lab, is provided in Appendix B. All SIMUTA-D TSP materials were delivered to the Mounted Battlespace Battle Lab. The VTP O/C team will contact the Mounted

Battlespace Battle Lab for any needed materials and distribute appropriate TSP materials to the unit.

Background of the SIMUTA-D Program

The SIMUTA-D TSPs are task-based information packages that provide structured situational training scenarios for virtual and constructive training in a digital environment. Structured training refers to training which provides prewritten orders and maneuvers on terrain with predrawn graphics to the training unit. The opposing forces (OPFOR) are set and have instructions which allow the unit to respond in a manner that is observable by O/Cs. Structured training is characterized by: (a) a focus on specific training objectives in a deliberately constructed training strategy, deriving from critical task summaries associated with the tactical situation; and (b) the application of instructional design principles coupled with simulation capabilities to provide training that is both efficient and effective. The application of structured training in the development of a Reserve Component Virtual Training Program (RCVTP) was recently undertaken at Fort Knox by the Army Research Institute's (ARI) Armored Forces Research Unit. The development effort entitled "Simulation-Based Multiechelon Training Program for Armor Units (SIMUTA)" used simulation capabilities to provide armored units with an intensive Combat Training Center-like training experience. The RCVTP was designated the VTP in 1994. Thus, all work post-dating the original SIMUTA TF effort, including SIMUTA-D, is referred to as such.

The training simulations used for SIMUTA were SIMNET for platoon through BN/TF training and Janus for BN/TF staff training exercises. (The SIMNET and Janus simulation training environments are described in greater detail later in this chapter.) The SIMUTA TSPs provide an efficient turn-key training system that includes all of the tools needed by O/Cs, the training unit, and site personnel to conduct collective, execution-focused training for conventional BN-and-below units. Development of the SIMUTA-D TSPs followed the methodology established under the original SIMUTA effort while addressing new training requirements driven by battlefield digitization.

Digital tasks included in the SIMUTA-D program were developed from applicable Army Training and Evaluation Plan (ARTEP) tasks (i.e., U.S. Department of the Army, 1988 and U.S. Army Armor School, 1995a). Tasks were not changed. Additions were made to subtasks to reflect digital operations. These additions are boldfaced on the ARTEP task lists contained in Appendix C. The primary objective of the TSPs is to assist the commander and O/C team in planning, conducting, and assessing digital BN/TF training. This approach maximizes time in simulation while minimizing unit administrative and overhead requirements.

Purpose of the SIMUTA-D Program

Digitized forces of the future require improved capabilities to achieve the agility, depth, and synchronization that characterize successful Army operations. The Army is addressing these requirements through the reorganization and modernization of its forces under a concept known

as Force XXI (U.S. Department of the Army, 1994). The SIMUTA-D program contributes to the Army's modernization efforts under the Force XXI training concept by providing a structured set of TSPs for application on the digitized battlefield. Commanders at every level must fully understand the digital battlefield and appropriately employ these improved capabilities during all mission phases to gain and maintain the winning edge. Documents recently published as Special Texts (STs) for digitized brigades, TFs, and company/teams (CO/TMs) (i.e., U.S. Army Armor School, 1995b, 1995c, 1995d) also assist in this understanding. The primary intent of these documents is to put a conceptual mark on the wall and to serve as conduits for the transition, implementation, and evolution of new doctrine and TTPs.

The SIMUTA-D program, which features TSPs for SIMNET and Janus, is a comprehensive, simulation-based program designed to provide structured, multiechelon, and collective training in a digital environment to armor BN/TFs. The program incorporates combat critical tasks derived from the ARTEP 71-2-Mission Training Plan (MTP) and the Fort Knox Supplemental Manual (FKSM) 71-2 MTP for the M1A2 (U.S. Department of the Army, 1988 and U.S. Army Armor School, 1995a). These MTPs support training exercises designed to utilize the current and emerging technologies of SIMNET, Janus-Army, and digital C^3 devices including: the Intervehicular Information System (IVIS), the Brigade and Battalion Command and Control (B2C2) system, the All Source Analysis System (ASAS), and the Initial Fire Support Automated System (IFSAS)[1]. See U.S. Department of the Army (1993) for a description of IFSAS and Appendix C for a listing of the SIMUTA-D tasks by mission.

The SIMUTA-D program is a turn-key operation in which: (a) training scenarios, complete OPORDs, and support packages are prepared and provided in advance to the participating unit; (b) units execute the orders that have been prepared and issued to them; (c) after action reviews (AARs) are conducted by qualified O/Cs; and (d) take home packages (THPs) are prepared and provided to the training unit following the conduct of training. Other than familiarization with the advance materials and the preparation required prior to a SIMUTA-D training exercise, planning and support requirements for the participating unit are minimal. It is assumed that the training unit is already technically proficient in the operation of all digital systems included in the training program. The emphasis in SIMUTA-D is on the execution phase of training in order to maximize the use of the simulation environment and available training time. While the training unit does not prepare its own OPORD, the unit derives training value from performing the processes, communication dynamics, and staff integration on-going in the BN/TF maneuver units and command posts (CPs) while executing the selected mission.

As stated above, execution is the emphasis in this training program. The tactical decision-making and plan and prepare process, through BN/TF level, has been completed. The unit is provided with complete brigade and BN/TF OPORDs. In addition, units are provided with training materials (e.g., overlays) which demonstrate the plan and prepare phases of the decision-making process for the mission being executed. Scripted messages ensure that conditions requiring performance of specified planned tasks occur during the exercise. Departure from the

[1] Forward Entry Devices (FEDs) were used to send artillery information to IFSAS.

scripted messages and events increases the likelihood that planned tasks previously identified as critical will not be performed. Training effectiveness is diminished if critical tasks are not performed and evaluated during the exercise. However, adjustments to issued plans after the mission begins are allowable with the permission of the senior O/C. The senior O/C must ensure that plan modifications do not significantly alter the O/C observation form designed for the specific mission. Variation in terrain and opponent actions is not advisable. The O/C team is responsible for ensuring that any scenario modifications do not hinder the conditions required to support performance of the planned tasks.

Tactical training in simulation provides participants the opportunity to: (a) conduct repeatable force-on-force exercises, (b) enhance training to standard, (c) and reinforce fundamental skills necessary for quick reaction to tactical situations. All of this is designed to maximize the effectiveness and efficiency of the limited time units have available to conduct simulation training.

Digital Communications

The SIMUTA-D TSPs are designed specifically for a digitized BN/TF comprised of forces equipped with modern automated C^3 systems. These systems are:

1. IVIS - an automated C^3 system that enables the exchange of preformatted digital combat reports and graphic overlays between BN CPs and individual combat vehicles and between combat vehicles. The IVIS system provides position updates, leading to shared situational awareness of friendly forces.

2. B2C2 - an automated system that enables the exchange of free-text messages and logistics information amongst higher and adjacent units, CPs, and commanders' combat vehicles. During the initial implementation of SIMUTA-D, B2C2 was used primarily for command and control (C^2) and combat service support (CSS) functions.

3. ASAS - an automated intelligence system that provides for the exchange of (processed) intelligence information between brigade and the TF Main CP.

4. IFSAS - an automated fire support (FS) system that provides a digital message capability between the FS section and the FS teams.

It is important to note that while the SIMUTA-D TSPs were designed to address the digital training requirements associated with a specific set of digital C^3 devices (see above), the TSPs have the flexibility to be adapted to accommodate other digital C^3 devices.

The assignment of digital devices to unit officers, noncommissioned officers (NCOs), and O/C personnel is shown in Figure 1. In some cases, unit personnel may need to be accompanied by trained operators. For instance, the TF commander may be accompanied by trained B2C2 and/or IVIS operator(s). It should be noted that operators participating in exercises conducted in SIMNET use the actual IVIS device while operators participating in Janus exercises use IVIS emulators. In any case, IVIS and B2C2 operators are expected to be proficient on the device or emulator to which they are assigned. Figure 2 depicts the relationships between the SIMUTA-D technologies, TSPs, and missions. Appendix D contains the device network as configured for the initial Janus trials. Except where indicated, digital device fielding for training units is identical for both Janus and SIMNET exercises.

PERSONNEL	DEVICES				
TRAINING UNIT	IVIS	B2C2	ASAS	IFSAS	FED
BN/TF Commander	1	1			
FS NCO				1	
Operations Officer (S3)	1	1			
Main CP	1	1	1	1	
FS CP				1	
Combat Trains Command Post (CTCP)	1	1			
CO/TM Commander	4				
CO/TM Fire Support Officer (FSO)					4
First Sergeant (1SG)		4			
Engineer Commander (Requires separate station in DATK)	1	1			1
Scout Platoon Commander	1				1
Scout Platoon Sergeant (PSG) (Required only in SIMNET)	1	1			
SUBTOTAL	11	10	1	3	6
O/C TEAM					
Higher Headquarters and Adjacent Unit Control Cell (HACC)		2	1		
FS Station				1	
TOTAL	11	12	2	4	6

Figure 1. Digital Device Requirements for SIMUTA-D Exercises

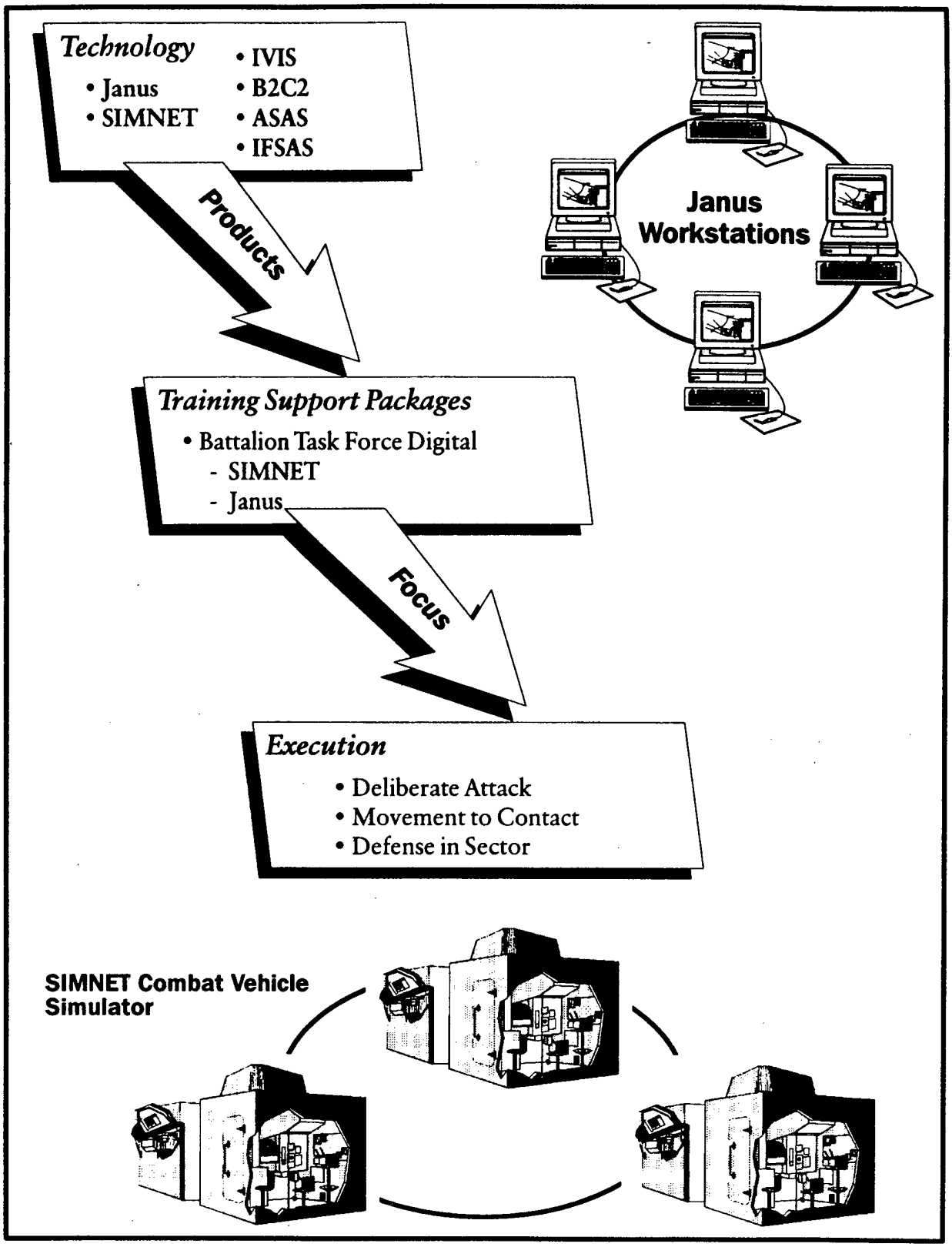

Figure 2. The SIMUTA-D technologies, products, and mission focus.

Components of the SIMUTA-D Program

The SIMUTA-D program consists of the following six components which are described in the paragraphs below: (a) Training Systems, (b) O/Cs, (c) Missions, (d) TSPs, (e) AARs, and (f) THPs.

Training Systems

SIMNET

The SIMNET system is a local area network (LAN) of simulators and computers supporting simulation of combined arms operations. It simulates many, but not all, combat, combat support (CS), and CSS systems. A brief description of SIMNET is provided below. For additional information see Alluisi (1991) and U. S. Army Armor School (1989). The combat vehicle simulators (CVSs) represented in SIMNET are: (a) the M1 Abrams tank, (b) the M2 Bradley Fighting Vehicle (BFV), and (c) the M3 Cavalry Fighting Vehicle (CFV). Each simulator is a separate module with space for all crew positions. The simulators housed in SIMNET are modeled after, but do not duplicate, the interiors of M1 and M2/M3 vehicles. Most of the controls, switches, and displays found on actual vehicles are included in the simulators, but only selected ones are operational. Details on operating the simulators are contained in the operator's manuals that will be provided to the training units by the O/C team.

The simulators operate in closed-hatch mode on a battleground created by computers. The simulated vehicles appear on the SIMNET battleground. Crew members see computer-generated views and hear computer-generated sounds that create the illusion of operating actual vehicles over real terrain. The terrain includes many man-made and natural features, although the terrain is much smoother relative to the actual environment.

Intercom systems and radios are provided to support communications within and between simulators. Weapons systems and their effects are represented so that simulators can kill and be killed. The simulators operate under constraints that are similar to those affecting real vehicles; that is, simulators can break down or run out of fuel and ammunition.

Mock-ups of a Main CP and a CTCP are part of SIMNET BN exercises. These facilities appear on the simulated terrain, but Main CP and CTCP personnel do not see the SIMNET battleground. Main CP and CTCP personnel can communicate with personnel in CVSs using radios that represent tactical frequency modulation radio networks. For SIMUTA-D, digital devices (i.e., IVIS, B2C2, ASAS, and IFSAS) are acquired by the training unit and set up by unit personnel. Units needing assistance should contact the VTP O/C team. The devices are set up in the CPs and are used as in a live exercise. Fire support is controlled from microcomputer stations by a member of the O/C team. Logistical and maintenance support is controlled from a microcomputer station collocated with the CTCP. The CP mockups replicate M577-based CPs, but can be configured with the applicable digital devices.

The SIMNET environment includes additional features designed to support training. Modular Semi-Automated Forces (ModSAF) are available to simulate either friendly or hostile combat elements. The OPFOR for all exercises are represented by ModSAF and controlled by members of the O/C team. Members of the O/C team also play the roles of the higher level unit commander and staff. The commander and his staff must execute the issued OPORD. Commanders and staffs of participating units must consider all aspects of adjusting their forces just as they would in actual combat in response to OPFOR actions. The commander and his staff must consider mission, enemy, terrain, troops, and time (METT-T) available; each Battlefield Operating System (BOS); and fully synchronize the plan.

For units conducting SIMNET exercises, there is a 2-hour familiarization course designed specifically for individual crew training. Although the course's focus is on conventional training and does not provide practice on digital equipment, it does provide crew familiarization on: (a) SIMNET, (b) basic crew duties, and (c) NTC terrain database navigation. Use of the familiarization course is strongly encouraged for crews experiencing SIMNET for the first time.

Janus

Janus, the second SIMUTA-D training environment, is designed to train staff sections in operations, coordination, and synchronization. Janus is operated by O/C team members to drive events in the Main CP and CTCP which are staffed by the participating unit. The interactive mode of operation allows commanders and staffs to emphasize the decision-making process and enforce the synchronization of the BOSs. The results of battle engagements are determined by using hit and kill probabilities.

The training unit's company commanders, scout platoon leader, and other supporting elements fight the battle using networked workstations. In fighting the battle, they adhere to the OPORD provided by the O/C team and/or fragmentary orders (FRAGOs) they receive during the battle from the unit's commander or staff. Further, FS and logistical and maintenance support are controlled from workstations, all operated by members of the unit. Units are encouraged to use actual unit commanders and 1SGs to send reports to the BN/TF commander, Main CP and CTCP. (Units should avoid using surrogates whenever possible in order to maximize the training benefit.) Members of the O/C team provide controllers to input the data from the individual workstations into the Janus system.

Janus staff training occurs in the Main CP and the CTCP. Personnel in the Main CP and CTCP communicate with company commanders, the scout platoon leader, and other supporting elements using both digital devices and radios. The communication network represents the integration of both digital and conventional channels and should adhere to the unit's standing operating procedures (SOPs). See Appendix D for a depiction of the digital device network used during the initial implementation of SIMUTA-D. Digital devices or emulators are acquired by the training unit and are set up by unit personnel. Units needing assistance should contact the VTP O/C team.

Like SIMNET, Janus includes features designed to support training while minimizing unit support requirements. The OPFOR is controlled by members of the O/C team. The O/C team members also play the roles of the brigade commander and his staff. The commander and his staff must execute the issued OPORD. Commanders and staffs of participating units must consider all aspects of adjusting their forces just as they would in actual combat in response to OPFOR actions. The commander and his staff must consider METT-T and each BOS, and fully synchronize the plan. Janus offers a unique capability for staff C^2 training, information processing, and battle analysis.

O/C Team

The second component of SIMUTA-D is the O/C team. The team consists of soldiers in the ranks of Sergeant First Class to Lieutenant Colonel (both active and reserve component) and civilians who have extensive military experience. All team members are full-time O/Cs, available to supporting units participating in SIMUTA-D. Appendix E shows the O/C team structure and qualifications. While the O/C team used for SIMUTA-D was based at Fort Knox, the SIMUTA-D TSPs may be used by any O/C team with access to a SIMNET or Janus facility.

The differences in O/C roles between the SIMUTA-D Janus and SIMUTA-D SIMNET exercises stem from the responsibilities given to the O/C team members assigned to the CO/TMs. In Janus, the O/Cs are either observers or controllers. As observers, the O/Cs monitor the performance of the unit and provide coaching when necessary. As controllers, O/Cs move the forces as directed by the training unit's CO/TM commanders, 1SG, and FSO who are operating the digital devices. In SIMNET, the O/C team members have additional responsibilities. In addition to observing the training unit, they may interact as platoon leaders for the CO/TMs (if those units do not bring subordinate players). These responsibilities take the form of acting as a controller/interactor (C/I) who controls a portion of an exercise and interacts with the force. This force can be manned simulators or simulated forces. When interaction with high, lower, and adjacent live units is needed, the controller fills that role.

In addition to the differences in O/C roles between SIMNET and Janus, SIMUTA-D utilizes the O/Cs in a slightly different manner than other SIMUTA efforts. For instance, in the SIMUTA-Battalion Exercise Expansion (SIMUTA-B) exercises for Janus, the CO/TM commanders are played by members of the O/C team who control the forces and interact on the radio. In this case, one O/C plays the role of a 1SG for all CO/TMs, collecting and forwarding CSS information. Thus, this O/C has C/I responsibilities. However, inclusion of the digital devices requires a very well trained CO/TM cell. The SIMUTA-D CO/TM station must send and receive reports on IVIS and B2C2. (The FED was used for FS.) Because of the greatly increased message flow in SIMUTA-D, an O/C cannot perform all of these tasks. Instead, unit personnel are used for several reasons. First, the CO/TM commander, FSO, and 1SG are already trained on IVIS, FED, and B2C2. By playing these roles, they receive further training in device usage and reporting. In addition, the actual unit personnel have experience with the unit staff and commander which facilitates their role-playing abilities. Thus, the O/C team member for CO/TMs only serves as a controller, moving the CO/TM force as directed by the CO/TM commander.

commander which facilitates their role-playing abilities. Thus, the O/C team member for CO/TMs only serves as a controller, moving the CO/TM force as directed by the CO/TM commander.

In any case, O/C team personnel serving as observers provide feedback and coaching during and after the simulation training. The O/Cs focus their observations on a limited number of key training objectives, according to the exercise design.

Overall, the O/C team aids the training unit by:

1. Helping them plan and schedule SIMNET and Janus training.

2. Providing them with pre-exercise materials.

3. Assisting in preparing training schedules.

4. Delivering the necessary training materials.

5. Operating the SIMNET and Janus simulation systems, in cooperation with SIMNET and Janus personnel.

6. Interacting with the training unit by role playing according to exercise design.

7. Observing training unit execution and providing feedback.

8. Producing a THP.

Training Support Packages

The third component of SIMUTA-D is the TSP which consists of a total of five volumes. There are separate TSPs for training conducted in SIMNET and Janus; although, the organization of the volumes for the two TSPs is identical. Volume I provides general information to the O/C team while Volume II provides general information to the training unit. Volumes III (MTC), IV (DIS), and V (DATK) are the mission volumes. Both brigade and BN/TF OPORDs are included in their respective TSP mission volume (i.e., Volume III, IV, or V) along with the appropriate annexes and overlays. Each mission type is identical for SIMNET and Janus applications (e.g., the MTC mission for SIMNET is the same for Janus). The mission volumes, are the primary tools used by the O/C team to manage and control the training and to provide feedback to the unit. Exercise execution materials (e.g., OPORDs), contained in the mission volumes, are provided to the unit by the O/C team.

Each TSP is designed to support the SIMUTA-D exercise and to serve as an active document for the O/C team. The O/C team uses extracts from the TSPs to help manage and control the exercise. All material used by the O/C team should be copied from the original TSP document. The original TSP should not have any original documentation removed from it.

Portions of the TSPs (e.g., data collection forms) were developed based on ARTEP-MTP documents (i.e., ARTEP 71-2 MTP, U.S. Department of the Army, 1988 and Fort Knox Special Manual [FKSM] 71-2, U.S. Army Armor School, 1995a). In addition, the digital SOPs of a local unit stationed at Fort Knox were considered. In the case of discrepancies between a training unit's SOPs and the data collection forms found in the TSP, the senior O/C will make adjustments to the collection forms where appropriate. Training units will not be required to adjust their SOPs to fit the O/C Observation Forms.

After Action Reviews

The AAR is the fourth component of SIMUTA-D. The purpose of the AAR is to review the training that has taken place and allow participants to discover for themselves what happened during the training and why. An AAR is not used to evaluate the performance of the staff but to reinforce lessons learned during conduct of the exercises. An AAR notes what battle tasks the staff needs to improve and what tasks the staff needs to sustain. The AAR is conducted at multi-levels, with each staff section receiving feedback prior to a BN-level AAR session. This final review brings together issues and lessons learned that apply across all staff sections.

Take Home Package

The fifth component of the SIMUTA-D program is the THP. Following a unit's participation in SIMUTA-D, a THP is prepared by the O/C team and sent to the unit. The THP provides O/C observations on the unit's training performance with emphasis on what the unit learned during the training period and areas that need improvement. The THP is designed to be used by the commander to assess his unit's training status and to plan future training.

Mission Selection

Selecting the mission(s) and training system(s) for unit training is an important step in the SIMUTA-D program. This should be done by the unit's chain of command during the O/C visit to the unit which will normally take place prior to SIMUTA-D training. Although the final decision needs to be made by the unit's leadership, early coordination with and assistance from the O/C team is strongly encouraged. This prior coordination allows the O/C team members to properly prepare for the visit and ensures that the unit is provided advance materials in a timely manner.

As outlined in Army training literature, tasks for training evolve from a unit's mission essential task list (METL), reflecting the unit's war plans and external directives. Based on the

commander's assessment of the unit's METL training status, the commander can determine the tasks and missions on which the unit needs to train.

All missions in the SIMUTA-D program are based on the same general scenario operating within the NTC terrain database, and can be executed independently or in an interrelated sequence. The digitized tank heavy BN/TF missions available for Janus and SIMNET are MTC, DIS, and DATK.

The training period (i.e., rehearsal, conduct of the exercise, AAR) required to perform a specific mission is about the same for all missions. The planning factor for training time for each mission is 7 hours. The breakdown is approximately 2 hours for rehearsal, 3 hours for the exercise, and 2 hours for the AAR process. Units should be cognizant of these factors when developing their SIMUTA-D training schedule. It is recommended that each mission be performed twice during the training visit.

Descriptions of Tank Heavy Battalion/Task Force Missions

Missions

Movement To Contact

The SIMUTA-D mission segments for a digitized tank heavy BN/TF MTC mission are as follows:

1. Segment 1: Movement/Destroy Enemy Reconnaissance

2. Segment 2: Meeting Engagement/Hasty Attack vs. Forward Security Element (FSE)

3. Segment 3: Hasty Defense vs. Advance Guard Main Body (AGMB)/Consolidate and Reorganize

Defense In Sector

The SIMUTA-D mission segments for a digitized tank heavy BN/TF DIS mission are as follows:

1. Segment 1: Security Force Battle

2. Segment 2: Structuring of the Main Battle Area (MBA) Defense

3. Segment 3: Defeat of the Enemy Attack

4. Segment 4: Re-establishment of the Forward Edge of the Battle Area (FEBA)

Deliberate Attack

The SIMUTA-D mission segments for a digitized tank heavy BN/TF DATK mission are as follows:

1. Segment 1: Movement

2. Segment 2: Breach/Envelopment/Consolidation

3. Segment 3: Reorganization

Manning Levels

Manning levels for SIMUTA-D missions are a function of the selected simulation environment and not of the specific mission. That is, the only variance in staffing is between SIMNET and Janus, not between the type of mission selected. The number of crews required for a SIMNET exercise is dependent on the number of simulators available at the training site. The organization of Tactical Operations Center (TOC) equipment and personnel is affected by space and personnel limitations and is the only departure made from ST 71-2-2 (U.S. Army Armor School, 1995b).

SIMNET Task Force Manning

Task Force Crew Manning Level

The unit and O/C team must decide on crew requirements during the exercise planning process. The minimum requirement is for one CVS each for the BN/TF commander, S3, and CO/TM commanders. The BN/TF commander and S3 require a Battalion Combat Vehicle (BCV) while the CO/TM commanders require M1s or BFVs. If more M1 or M2 simulators are available, crews for company executive officers, FS observers, platoon leaders, PSGs, and other vehicles are manned in this order.

If there are enough simulators for the entire BN/TF, staffing should be at a minimum of three-man crews. Cross leveling is at the discretion of the unit leaders and the O/C team.

Task Force Staff Manning Level

The BN/TF commander, S3, and their crews operate from M1 or M2 simulators. The FSO should operate as a crew member of the BN/TF commander's M1/M2. The recommended staffing levels for the command group, Main CP, and the CTCP for a SIMNET exercise are listed in Appendix F. Those personnel listed in Appendix F are identified as the minimum essential positions that must be filled. If the person assigned to a position is not available, the functions inherent to that position must be performed by a designated assistant during the exercise.

Janus Task Force Manning

Company/Team Manning Level (Within A BN/TF Exercise)

Each CO/TM should consist of the commander, 1SG, and FSO.

Staff Manning Level

The recommended staffing levels for the Command Group, Main CP, and the CTCP for a Janus exercise are listed in Appendix F. Those personnel listed in Appendix F are identified as the minimum essential positions that must be filled. If the person assigned to a position is not available, the functions inherent to that position must be performed by a designated assistant during the exercise.

ARTEP-MTP Tasks

The tables indicating the ARTEP-MTP tasks that are specifically trained in each SIMUTA-D mission are located in Appendix C.

Observer/Controller Visit

One or two members of the O/C team will visit the training unit, or a unit representative will visit the O/C team prior to the unit's scheduled training. Prior to this visit, in telephonic coordination with the O/C team and with the use of this guide, the unit commander or his representative should decide what missions and training systems will be used during training.

During the visit, the O/C team representatives will meet with the unit chain of command to: (a) finalize plans for the unit's training, (b) assist in preparing a detailed training schedule for their SIMUTA-D rotation, and (c) recommend what the unit should do in the preparation phase in order to optimize training during the execution phase. To assist in these efforts, the O/Cs will provide the following to the training unit:

1. OPORDs with overlays for the BN/TF.

1. OPORDs with overlays for the BN/TF.

2. Maps for each training unit that should be used for both the preparation and execution phase of training.

3. Videos introducing crews to SIMNET, M1, and/or M2 simulators.

4. M1 or M2/M3 simulator operators manuals.

5. Critical task lists for the missions to be trained (also available in this guide).

6. Minimum equipment required to be brought by the unit for training includes radios and digital equipment (if not previously coordinated with SIMNET or Janus site), 1:50,000 maps, map boards, overlays, status charts, staff logs, and unit staffing rosters.

Telephonic coordination between the unit and the O/C team representatives will continue after the visit to complete or finalize any actions, or to resolve any issues that might arise prior to the unit's arrival at the training site.

Training Facilities

The SIMUTA-D TSPs are designed for BN/TF staff training conducted in SIMNET or Janus facilities. Units with access to Janus facilities may use the SIMUTA-D TSPs to support their training requirements at their selected Janus location. Currently, the SIMNET facility at Fort Knox is the only SIMNET location equipped for BN/TF training exercises. Units desiring to conduct BN/TF training in SIMNET may use the Fort Knox POC list shown in Appendix B to assist with their planning.

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Appendix A
Acronyms

AAR	After Action Review
AGMB	Advance Guard Main Body
A/L	Administration and Logistics
ARI	U.S. Army Research Institute for the Behavioral and Social Sciences
ARTEP	Army Training and Evaluation Program
ASAS	All Source Analysis System
B2C2	Brigade and Battalion Command and Control
BCV	Battle Command Vehicle
BFV	Bradley Fighting Vehicle
BN	Battalion
BOS	Battlefield Operating System
C^2	Command and Control
C^3	Command, Control, and Communication
CAS^3	Combined Arms Services Staff School
CFV	Cavalry Fighting Vehicle
CGSC	Command General Staff College
C/I	Controller/Interactor
COA	Course of Action
CO/TM	Company/Team
CP	Command Post
CS	Combat Support
CSS	Combat Service Support
CTCP	Combat Trains Command Post
CVS	Combat Vehicle Simulator
DATK	Deliberate Attack
DIS	Defense in Sector
DST	Decision Support Template
FA	Field Artillery
FEBA	Forward Edge of the Battle Area
FED	Forward Entry Device
FKSM	Fort Knox Supplemental Manual
FRAGO	Fragmentary Order
FS	Fire Support
FSE	Forward Security Element
FSO	Fire Support Officer

HACC	Higher Headquarters and Adjacent Unit Control Cell
IFSAS	Initial Fire Support Automated System
IVIS	Intervehicular Information System
Janus-A	Janus-Army
LAN	Local Area Network
LCU	Lightweight Computer Unit
MBA	Main Battle Area
METL	Mission Essential Task List
METT-T	Mission, Enemy, Terrain, Troops, and Time available
ModSAF	Modular Semi-Automated Forces
MTC	Movement to Contact
MTP	Mission Training Plan
NCO	Non-Commissioned Officer
NCS	Net Control Station
NTC	National Training Center
O/C	Observer/Controller
O&I	Operations and Intelligence
OPFOR	Opposing Forces
OPORD	Operations Order
POC	Point of Contact
PSG	Platoon Sergeant
PSNCO	Personnel Staff Non-Commissioned Officer
RCVTP	Reserve Component Virtual Training Program
SIMNET	SIMulation NETworking
SIMUTA	Simulation-Based Multiechelon Training Program for Armor Units
SIMUTA-B	SIMUTA - Battalion Exercise Expansion
SIMUTA-D	SIMUTA - Digital
SINCGARS	SINgle Channel Ground-Airborne Radio System
SOP	Standing Operating Procedures
ST	Special Text
TF	Task Force
THP	Take Home Package
TOC	Tactical Operations Center
TSP	Training Support Package
TTP	Tactics, Techniques, and Procedures
VTP	Virtual Training Program

Appendix B
Point of Contact List

Table B-1

The Fort Knox POC List

Virtual Training Program Observer/Controller Team:

Commander
5/16th Cav Regiment
ATTN: ATSB-SBE-BOC
Fort Knox, KY 40121-5000

DSN: 464-7515/7558
Commercial: (502) 624-7515/7558

Mounted Battlespace Battle Lab

Commander
U.S. Army Armor Center
ATTN: ATZK-MW
Fort Knox, KY 40121

DSN: 464-7809
Commercial: (502) 624-7809

Appendix C
ARTEP Tasks

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Supervise TOC operations/collection of information	*	*	*	*	*	*	*	*	*	*
Issue FRAGOs, as necessary, using **IVIS** implementing changes to original tactical plan	*	*	*	*	*	*	*	*	*	*
Coordinate and supervise TF CSS activities	*	*	*	*	*	*	*	*	*	*
Sends required/critical reports to brigade as necessary **using B2C2**	*	*	*	*	*	*	*	*	*	
Monitor scout development of situation using **voice and IVIS** report	*	*	*	*	*		*	*		
Monitor status of dissemination and acknowledgment of TF commander or S3 FRAGO to maneuver companies to initiate base of fire from hasty defensive positions against AGMB			*							
Monitor status of dissemination and acknowledgment of TF commander or S3 shifting of priority of fires to company in contact			*							
Monitor/resume scout forward screen to provide early warning of enemy follow-on elements		*	*				*			
Maintain **voice and ASAS** commo on all required nets (TF operations and intelligence [O&I], Brigade O&I)	*		*	*	*	*	*	*	*	*
Serve as TF O&I net control stations (NCS)	*	*	*	*	*	*	*	*	*	*
Disseminate scout contact report on TF command net using **IVIS**	*							*		
Update SITEMP	*	*	*	*	*	*	*			
Update Decision Support Template (DST) and recommend enemy Course(s) of Action (COA) to TF Commander or S3	*	*	*	*		*	*			

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Log report	*	*	*	*		*	*			
Update Brigade S2 using **ASAS**			*	*	*	*				
Maintain **voice and B2C2/IVIS** commo on brigade & BN command nets	*	*	*	*	*	*	*	*	*	*
Report TF crossing LD to brigade TOC using **B2C2**	*							*		
Serve as TF command net NCS	*	*	*	*	*	*		*	*	
Report contact with Regimental Recon to brigade TOC using **B2C2**	*									
Update situation maps; log report	*	*	*	*	*	*	*	*	*	*
Report location of FSE to brigade TOC using **B2C2**		*								
Ensure subordinate unit acknowledgment of TF commander or S3 alert to maneuver companies to move to nearest ABF positions to engage the AGMB			*							
Monitor status of subordinate unit occupation of ABFs			*							
Send SITREP to brigade TOC using **B2C2**			*				*		*	
Ensure subordinate unit acknowledgment of TF commander or S3 coordination with FSO for immediate suppression and lifting and shifting fires on AGMB to prevent fratricide			*							
Monitor TF development of situation using **voice and IVIS** reports			*	*	*	*	*		*	
Evaluate effects of engagement on concept of operation; develop situation	*		*		*	*	*			
Monitor and track scout resumption of forward screen to provide early warning of enemy follow-on elements using voice and **IVIS** reports			*				*			
Ensure subordinate unit acknowledgment of TF commander or S3 shifting of priority of fires back to scouts			*				*			

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Maintain voice and **IFSAS** commo on all required nets (including: TF command; TF FS net; field artillery (FA) BN firing net)	*	*	*	*	*	*	*	*	*	*
Maintain friendly unit locations	*	*	*	*	*	*	*	*	*	*
Integrate FS assets to support maneuver elements/TF commander's intent (suppress, neutralize, destroy) while preventing fratricide during defense against the AGMB	*		*		*	*	*	*	*	*
Coordinate movement of TF mortar platoon using digital messages	*	*	*							
Keep TF commander informed regarding FS status (i.e., available assets, missions, ammo, priorities of fire, priority targets/final protective fires, FS coordination measures)	*	*	*							
Relay TF locations to direct support FA BN/brigade using **IFSAS**	*	*	*						*	
Forward TF maintenance status to brigade rear on using **B2C2** brigade administration and logistics (A/L) net	*									
Serve as TF A/L net NCS	*	*	*							
Maintain voice and **B2C2/IVIS** commo on brigade & BN A/L and BN command net	*	*	*							
Track vehicle and personnel losses using voice and digital reports	*		*							
Coordinate for medical support with BAS	*		*							
Initiate weapons systems replacement ops	*		*							
Initiate personnel replacements	*		*							
Update combat power status using **B2C2**	*		*							
Report updated combat power status to TF S3 section on **B2C2** on the TF O&I net	*		*							
Report updated combat power status to brigade S4 section on **B2C2** on the brigade A/L net	*		*							

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Monitor development of situation using voice and **B2C2/IVIS** reports		*	*							
Crosses LD at designated time	*									
Maintain voice and **B2C2/IVIS/IFSAS** commo on brigade and BN command and FS nets	*	*	*							
TF commander or S3 reports crossing LD to brigade commander using **B2C2** on brigade command net	*									
TF commander or S3 reports contact with Regimental recon to brigade commander using **B2C2** on brigade command net	*									
TF commander or S3 sends SITREP to brigade commander using **B2C2** on brigade command net	*	*	*							
TF commander or S3 FRAGOs maneuver companies to move to ABF positions to engage the FSE		*								
TF commander or S3 use existing or ad hoc **IVIS** graphic control measures (i.e., checkpoints, restrictive fire line, etc.) to control maneuver and fires during hasty attack on FSE		*								
TF commander or S3 coordinates with FSO for immediate suppression and lifting and shifting fires on FSE to coincide with hasty attack and prevent fratricide		*								
TF commander or S3 shifts priority of fires to company conducting hasty attack		*								
TF commander or S3 FRAGOs maneuver companies to move to ABF positions to engage the AGMB			*							
TF commander or S3 use existing or ad hoc **IVIS** graphic control measures (i.e., checkpoints, restrictive fire line, etc.) to control the engagement of the AGMB			*							

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
TF commander or S3 coordinates with FSO for immediate suppression and lifting and shifting fires on AGMB to coincide with hasty attack and prevent fratricide			*							
TF commander or S3 shifts priority of fires back to scouts			*							
Ensure subordinate unit acknowledgment of TF commander or S3 FRAGO to maneuver companies in ABF positions to initiate base of fire from hasty defensive positions against FSE			*							
Ensure dissemination and acknowledgment of TF commander or S3 use of existing or ad hoc graphic control measures (i.e., check points, restrictive fire line, etc.) to control engagement of AGMB			*							
Command and control/synchronize subordinate element actions				*						
Prepare TF to engage upon positive identification of enemy elements				*						
Ensure FS integrated to support scout platoon withdrawal				*						
Ensure FS integrated to support company A & CO/TM B withdrawal				*						
Monitor maneuver element development of situation					*	*				
Evaluate decision points/order movement to subsequent positions as necessary					*	*	*			
Evaluate effects of BN/TF losses on concept of operation; develop situation					*	*			*	
Ensure FS integrated to support counterattack							*			
Evaluate decision points/order counterattack to destroy enemy remnants in sector and reestablish FEBA							*			

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Monitor TF engagement using voice and digital reports					*	*	*			
Monitor TF reorganization							*			
Disseminate latest division INTSUM on TF command net				*						
Evaluate effects of engagement on accomplishment of mission and expected further enemy actions; develop situation							*			
Monitor company A development of the situation				*						
Report contact with CRPs to brigade TOC using **B2C2**				*						
Monitor company A withdrawal				*						
Report company A withdrawal to brigade TOC using **B2C2**				*						
Report company B engagement to brigade TOC					*					
Report TF engagement with FSE to brigade TOC using **B2C2**					*	*				
Report TF engagement with 1st MRB(+) to brigade TOC using **B2C2**					*					
Report TF engagement with 2nd MRB(+) to brigade TOC using **B2C2**						*				
Report conduct of TF counterattack to brigade TOC using **B2C2**							*			
Report clearing zone, re-establishment of FEBA and establishment of forward scout screen to brigade TOC using **B2C2**							*			
Relay TF locations to FA BN/brigade FSO using **IFSAS**				*	*					*
Execute FS				*	*		*			
Cover movement of company A and or CO/TM B				*						
Serve as TF FS net NCS					*		*			
Disseminate TF SEAHAWK report on TF command net								*		

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Confirm or deny situation and/or event template								*	*	*
Disseminate CO/TM contact reports on TF O&I net								*		
Disseminate maneuver element SPOTREPs on TF O&I net									*	
Disseminate brigade S2 all source report on TF command net										*
Receive REDCON status reports from all subordinate elements								*		
Report status of breaching operation to brigade TOC on O&I net								*		
Monitor integration of FS asset to support breech; inform TF commander of any FS integration problems on TF command net								*		
Report team C contact to brigade TOC using **B2C2**								*		
Disseminate reports on TF command net									*	
Report contact and TF assault on OBJ COBRA to brigade TOC on O&I net									*	
Coordinate assault									*	
Report occupation of OBJ COBRA to brigade TOC on O&I net									*	
Report battle losses to brigade on O&I net									*	
Coordinate movement of TF mortar platoon								*	*	*
Delegate tasks to FSE as necessary								*	*	*
Disseminate B-14 Cav report on TF command net if necessary								*		
Disseminate brigade rear report on TF A/L net								*		
Ensure FS integrated to support scout sit								*		
Monitor Companies B & D development of situation								*	*	
Ensure FS integrated to support engagement of CSOP								*		

ARTEP TASKS	MTC PHASE			DIS PHASE				DATK PHASE		
	1	2	3	1	2	3	4	1	2	3
Monitor Team C development of situation								*		
Ensure FS integrated to support team C engagement of MRP (north)								*		
Ensure FS integrated to support TF breaching operation									*	
Evaluate effects of TF SEAHAWK SITREP on TF mission; develop situation									*	
Monitor scout reconnaissance and security operation and TF preparation of defense of OBJ COBRA										*
Ensure FS integrated to support scout screen and TF defense of OBJ COBRA										*

Note. An "*" signifies the occurrence of a task during a specific mission phase.

Appendix D
The SIMUTA-D Device Network[1]

The SIMUTA-D experiment utilized a simulated task force with a Brigade TOC for control. The task force was configured by the following cells:

HACC/BRIGADE
TF Main CP - Operations and Intelligence Sections
CTCP
TF Main CP - FS
TF Commander
TF S3
Scout Platoon
FS
CSS
CO/TM A
CO/TM B
Team C
Company D

To digitally interconnect the TF and the Brigade, the following nets were developed to ensure digital interconnectivity: B2C2 Brigade Command Net, B2C2 Brigade A/L Net, B2C2 TF A/L net, IVIS TF Command Net, FED TF Fire Support Net, and IFSAS Net.

Continued on next page

[1] The materials contained in this appendix were contributed in large part by CPT. Michael Spragg of the Mounted Battlespace Battle Lab.

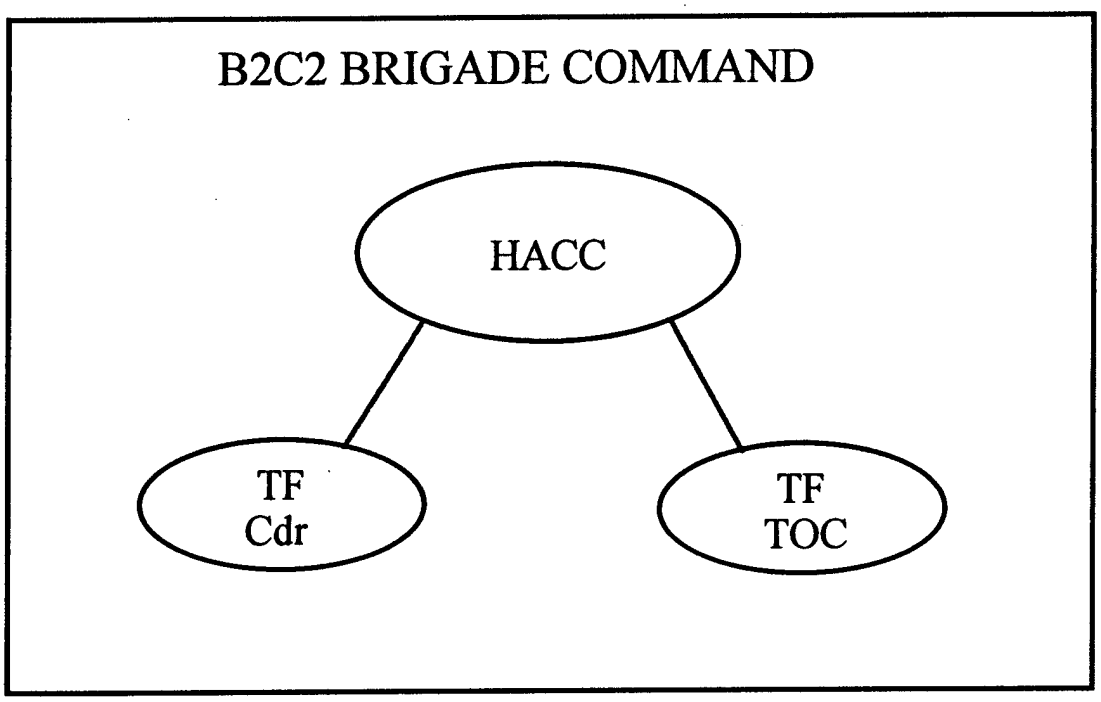

Figure D-1. B2C2 brigade command net.

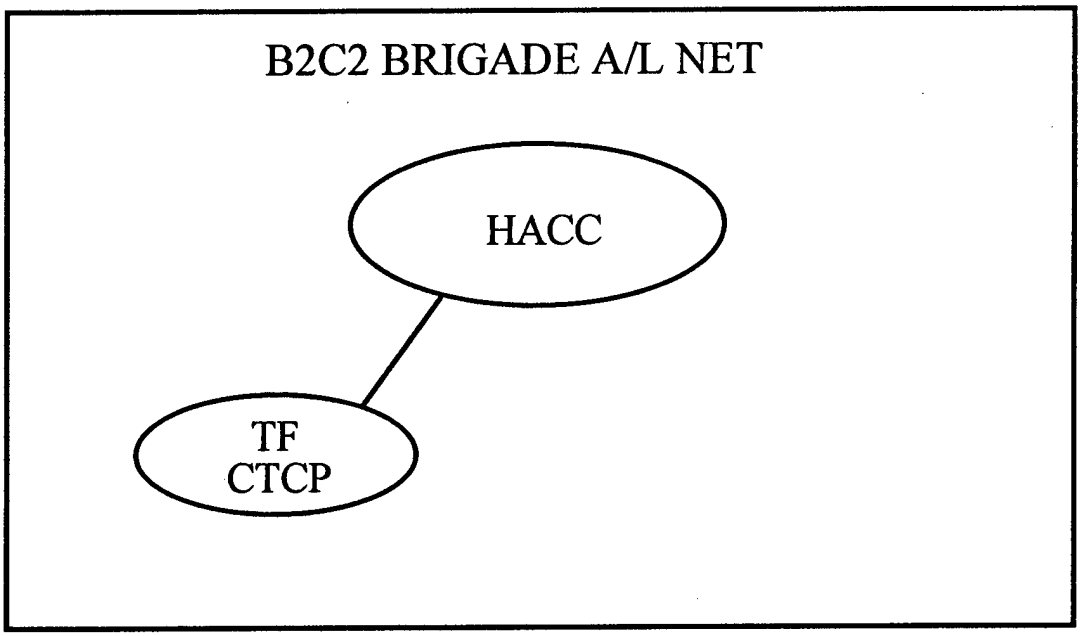

Figure D-2. B2C2 brigade A/L net.

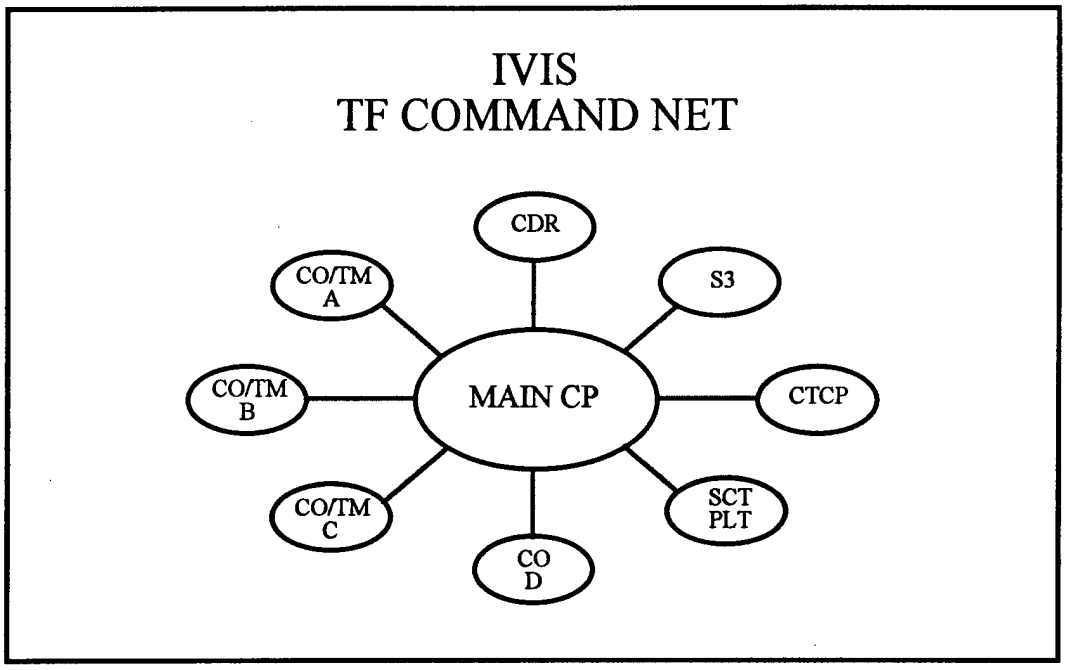

Figure D-3. IVIS TF command net.

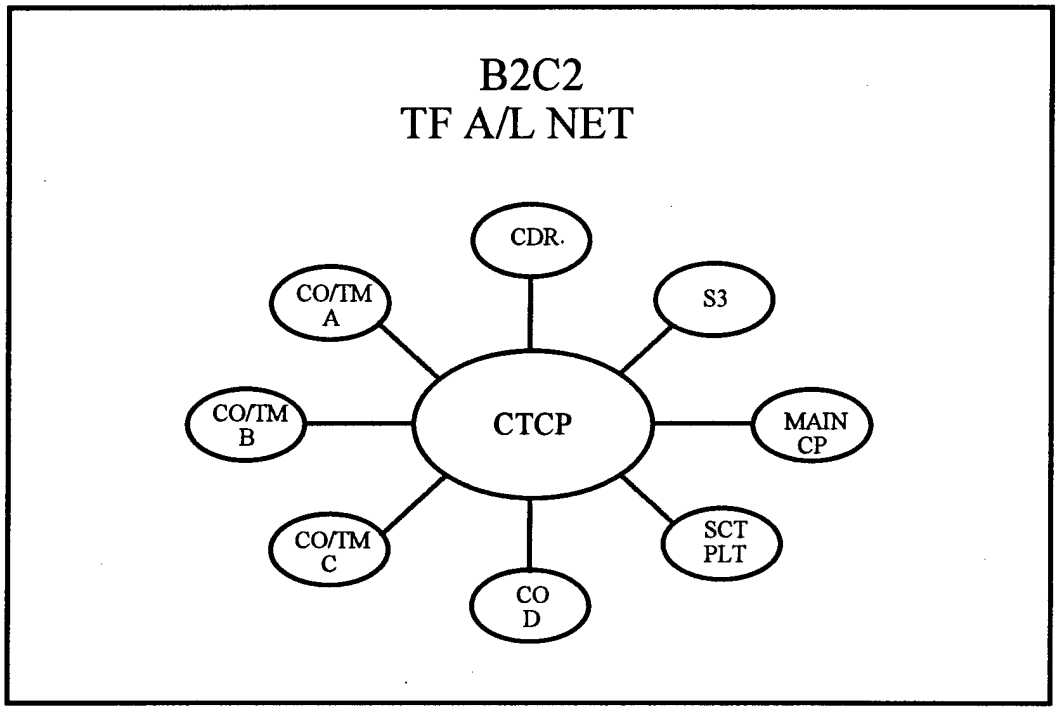

Figure D-4. B2C2 TF A/L net.

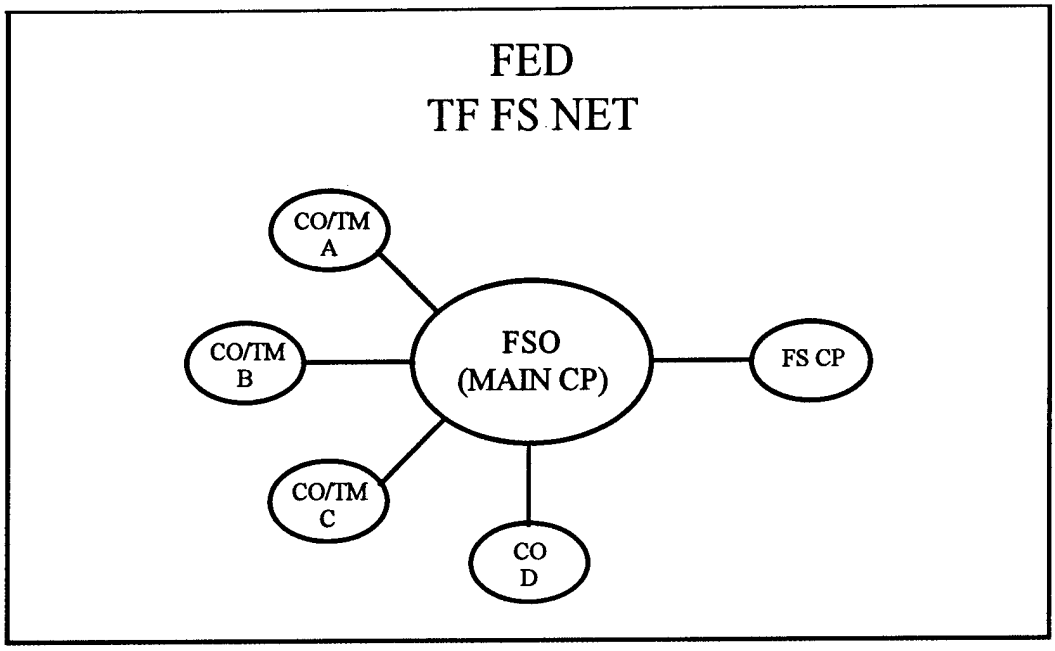

Figure D-5. FED TF FS net.

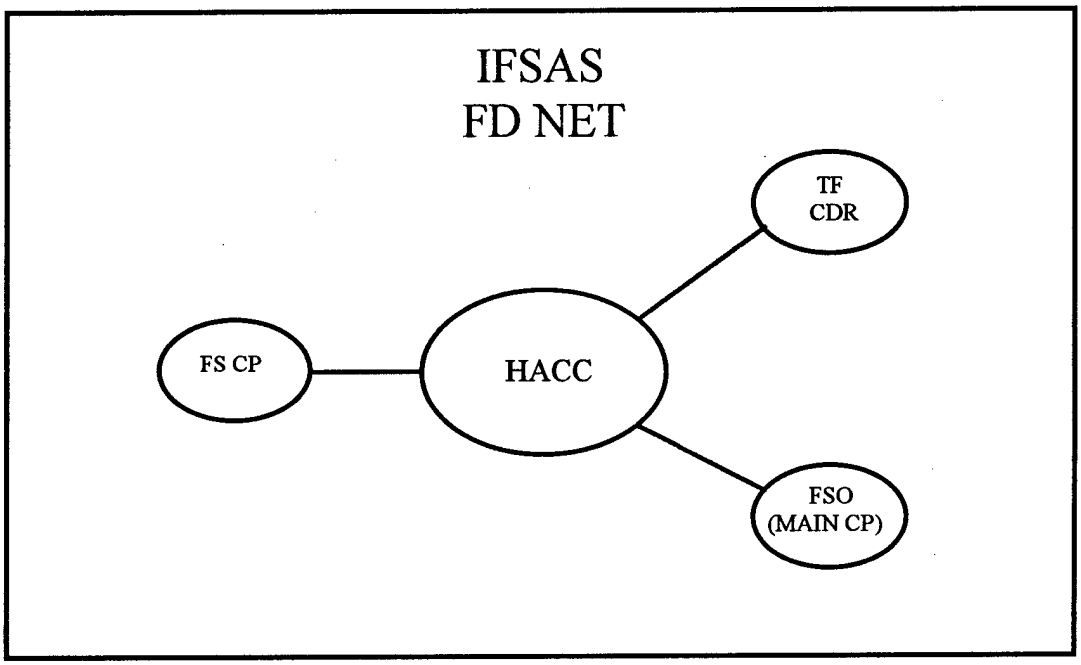

Figure D-6. IFSAS FD net.

For simulation purposes, all digital nets were interconnected via ethernet with the exception of the TF B2C2 net. This network was interconnected via SINgle Channel Ground-Airborne Radio System (SINCGARS) radios. There was a physical requirement to overcome a shortage of LAN cards that were integrated within the lightweight computer units (LCUs). The Brigade B2C2 net utilized an ethernet configuration where the interface with the SINCGARS network was at the TF TOC LCU. Here, channel 1 was reserved as the Brigade net (LAN card) and channel 2 was reserved as the TF net (tactical communications interface module card). Similarly, the TF IVIS net was interconnected by a LAN that utilized a Hub to route IVIS digital messages to all host workstations. The following diagram exhibits the IVIS LAN:

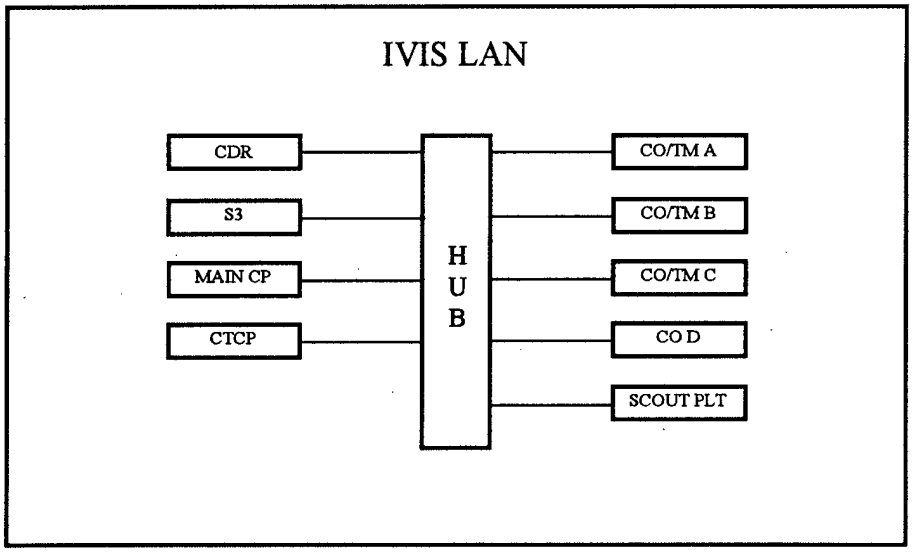

Figure D-7. IVIS LAN.

When an IVIS message is generated at any of the above workstations, the message will be routed through the Hub and sent to each of the other workstations that the message is intended. This is accomplished through Internet Protocol addressing.

Appendix E
Observer/Controller Team Structure

Table E-1

Observer/Controller Team Structure for Janus

POSITION	REQUIREMENTS (Rank/Experience/School)
Exercise Controller	MAJ/Battalion-Brigade Staff/Command General Staff (CGSC)
Command Group O/C	LTC/Battalion- Brigade Staff/ CGSC
Main CP O/C	MAJ/Battalion XO/ CGSC
S2 O/C	CPT/Battalion S2/Combined Arms Services Staff School (CAS^3)
S3 Section O/C	CPT or E8-E9/S-3 Air/CAS^3 or Operations NCO
FS O/C	CPT/FSO/CAS^3
FS O/C	Any/Janus Qualified/None
CTCP O/C	CPT/Battalion S1/CAS^3
CSS Interactor	CPT/Battalion S4/CAS^3
OPFOR	Any/Threat Qualified/None
HACC	Any/Brigade-Div Operations/None
Janus Operators	Any/Janus Qualified/None

Table E-2

Observer/Controller Team Structure for SIMNET

POSITION	REQUIREMENTS (Rank/Experience/School)
Exercise Controller	MAJ/Battalion-Brigade Staff/CGSC
Command Group O/C	LTC/Battalion-Brigade Staff/CGSC
Main CP O/C	MAJ/Battalion XO/CGSC
S2 O/C	CPT/Battalion S2/CAS^3
S3 Section O/C	CPT or E8-E9/S-3 Air/CAS^3 or Operations NCO
FS O/C	CPT/FSO/CAS^3
FS C/I	Any/SIMNET Qualified/None
CTCP O/C	CPT/Battalion S1/ CAS^3
CSS C/I	CPT/Battalion S4/ CAS^3
OPFOR	Any/Threat Qualified/None
HACC	Any/Brigade-Division Operations/None
CO/TM O/C	Any/SIMNET Qualified/None

Appendix F
Recommended Minimum Staffing Levels

Table F-1

Recommended Minimum Staffing Levels for Janus

POSITION	MINIMUM PERSONNEL REQUIRED
TF Commander	1
B2C2 Operator	1
FS NCO	1
TF XO	1
TF S3	1
B2C2 Operator	1
Scout Platoon Leader	1
Mortar Platoon Leader	1
S1	1
Personnel Staff NCO (PSNCO)	1
S2	1
S3 Air	1
Chemical Officer	1
Operations NCO	1
TF FSO	1
FS NCO	3
S4	1
S4 NCO	1
CO/TM Commander[a]	4
CO/TM 1SG[a]	4
CO/TM FSO[a]	4

Note. [a]Five personnel are required for DATK to meet engineer requirement.

Table F- 2

Recommended Minimum Staffing Levels for SIMNET

POSITION	MINIMUM PERSONNEL REQUIRED
TF Commander w/crew	4
TF XO	1
TF S3 w/crew	4
Scout Platoon Leader	1
Scout Platoon Sergeant	1
Mortar Platoon Leader	1
S1	1
PSNCO	1
S2	1
S3 Air	1
Chemical Officer	1
Operations NCO	1
TF FSO	1
FS NCO	4
S4	1
S4 NCO	1
CO/TM Commander w/crew[a]	4
CO/TM 1SG[a]	4
CO/TM FSO[a]	4

Note. [a]Five personnel are required for DATK to meet engineer requirement.